

蝶と蛾 Trans. lepid. Soc. Japan 46 (2) : 69-90, June 1995

New and poorly known clearwing moth taxa from Vietnam (Lepidoptera, Sesiidae)

Oleg G. GORBUNOV¹⁾ and Yutaka ARITA²⁾

¹⁾ Institute for the Problems of Ecology and Evolution, Russian Academy of Sciences,
Leninsky prospekt 33, 117071, Moscow V-71, Russia*

²⁾ Zoological Laboratory, Faculty of Agriculture, Meijo University,
Tempaku-ku, Nagoya, 486 Japan

Abstract A new genus, *Cyanosesia* gen. nov., and seven new species, *Similipepsis bicinctula* sp. nov., *Cyanosesia tonkinensis* sp. nov., *C. vietnamica* sp. nov., *Aschistophleps xanthocrista* sp. nov., *Synanthesdon aurifasciatum* sp. nov., *Ichneumenoptera vietnamica* sp. nov. and *I. caudata* sp. nov., are described and illustrated from Vietnam. Redescription of *Tinthia spilogastra* Le Cerf, 1916, as well as a redescription and data on the bionomics and habitat are provided for *Ichneumenoptera duporti* (Le Cerf, 1927). *Tinthia spilogastra* Le Cerf, 1916, is recorded from Vietnam for the first time.

Key words Lepidoptera, Sesiidae, *Aschistophleps xanthocrista* sp. nov., *Cyanosesia* gen. nov., *C. tonkinensis* sp. nov., *C. vietnamica* sp. nov., *Ichneumenoptera caudata* sp. nov., *I. duporti*, *I. vietnamica* sp. nov., *Similipepsis bicinctula* sp. nov., *Synanthesdon aurifasciatum* sp. nov., *Tinthia spilogastra*, Oriental region, Vietnam, taxonomy.

Much of material dealt with in the present paper derives from Vietnam, and mostly belongs to the Muséum d'Histoire Naturelle, Genève, Switzerland (MHNG). It was kindly sent to us for study by Dr D. B. Burckhardt with the help of Dr S. I. Golovatch. We also studied certain additional samples from the collections of the Zoological Laboratory, Faculty of Agriculture, Meijo University, Nagoya, Japan (MUT) and of the senior author (CG). In addition, type material of *Tinthia spilogastra* Le Cerf, 1916 and *Synanthesdon duporti* Le Cerf, 1927, housed in the Muséum National d'Histoire Naturelle, Paris, France (MNHP) was studied.

At present only 22 sesiid species are known from Vietnam, including seven new species described below (Le Cerf, 1912, 1916, 1927; Gorbunov, 1988; Arita & Gorbunov, 1995; Gorbunov & Arita, 1995a; Gorbunov & Arita, 1995b). This number of species is, of course, only a small part of a certainly rather rich tropical fauna of that country. We believe that in the course of further explorations, numerous additional new species will emerge, as well as forms currently known in the adjacent parts of Indochina, southern China and other parts of the Oriental region.

Unfortunately, the systematic position of many species of clearwing moths of the Oriental Region is currently unclear, and most of them are in need of a revision. Hence the species we present for comparison herein are cited in their original combinations. Sometimes these combinations do not correspond with those adopted by Heppner & Duckworth, 1981.

TINTHIINAE Le Cerf

TINTHIINI Le Cerf

* Visiting Scholar of Zoological Laboratory, Faculty of Agriculture, Meijo University,
Tempaku-ku, Nagoya, 486 Japan

***Tinthia spilogastra* Le Cerf (Figs 1, 17)**

Tinthia spilogastra Le Cerf, 1916: 11, pl. 377, fig. 3158. Type locality: "Haute-Birmanie. Etat de Momeit" [Myanmar]. Holotype female (MHNP); Le Cerf, 1917: 370 (*Tinthia*); Hampson, 1919: 117 (*Trichocerota*); Dalla Torre & Strand, 1925: 183 (*Tinthia*); Gaede, 1933: 799, pl. 94, row i (*Trichocerota*); Heppner & Duckworth, 1981: 22 (*Trichocerota*).

Redescription. Female (Fig. 1). Alar expanse 17.8 mm; body length 7.8 mm; forewing 7.6 mm; antenna 4.2 mm. Head: antenna dark brown to black with violet sheen; frons dark brown to black; labial palpus pale yellow to white; vertex dark brown to black; pericephalic hairs yellow to white. Thorax: patagia dark brown to black, with violet sheen, with a small snow-white spot laterally; tegula, meso- and metathorax dark brown to black with violet sheen; thorax laterally dark grey-brown with a few yellowish scales. Legs: fore coxa dark brown to black with admixture of individual white scales basally; hind tibia black, mixed with white internally; spurs grey-brown with admixture of white scales internally. Abdomen: dorsally black with violet sheen; tergite 4 with a relatively broad orange stripe proximally; tergite 6 with a few yellow-orange scales at distal margin; ventrally dark brown to black; sternite 4 with a broad snow-white stripe proximally; sternites 5 and 6 each with admixture of individual white scales; anal tuft small, black with a yellowish edge. Forewing: nearly opaque, dark brown to black, with bronzed-violet sheen; anally black with violet sheen; external and posterior transparent areas undeveloped; anterior transparent area very narrow and short; cilia dark brown with bronzed-violet sheen. Hindwing: transparent, but on distal third densely covered with hyaline scales with yellowish hue; veins and outer margin black with bronzed-violet sheen; discal spot undeveloped; outer margin narrow, about twice narrower than cilia; cilia dark brown with bronzed-violet sheen.

Female genitalia (genital preparation No. GA-048) (Fig. 17). Eighth sclerite relatively narrow, well-sclerotized, with numerous long setae at distal margin; papilla analis well-sclerotized with numerous long setae; posterior apophysis nearly as long as anterior apophysis; ostium bursae narrow, membranous; antrum relatively long, sclerotized only on anterior part; ductus bursae broad, membranous; corpus bursae globose to ovoid with two rounded groups of minute pointed spines (signum).

Male. Unknown.

Variability. Slightly varying in individual size: alar expanse 17.8–23.0 mm; body length 7.8–8.5 mm; forewing 7.6–10.6 mm; antenna 4.2–4.9 mm, as well as in the number of orange and yellow-orange scales on the 4th and 6th abdominal tergites.

Diagnosis. *Tinthia spilogastra* seems to be closest to *Trichocerota ruficincta* Hampson, [1893], *T. dizona* Hampson, 1919, and *T. diplotima* Meyrick, 1926. From *ruficincta*, the type species of the genus *Trichocerota* Hampson, [1893], *spilogastra* differs in the nearly opaque forewing (external transparent area present in *ruficincta* and all other species of *Trichocerota*) and in the coloration of the abdomen (tergites 4 and 6 each with a broad reddish stripe, tergites 5 and 7 each with a few reddish scales in *ruficincta*). In addition, *spilogastra* can easily separated from *ruficincta* by the female genitalia (8th sclerite and antrum longer and only one signum present in *ruficincta*). From *dizona*, this species can be distinguished by the relatively smaller size (alar expanse about 26.0 mm in *dizona*), coloration of the hind tibium (externally black with a broad whitish ring basally in *dizona*), abdomen (an orange distal stripe on the 6th tergite broader and only 5th and 6th sternites mixed with white scales in *dizona*) and forewing (densely covered with red-brown scales in the species compared). From *diplotima*, *spilogastra* is clearly distinguishable by the coloration of the patagium (white in *diplotima*), tegula (with a red inner margin in *diplotima*) and abdomen (tergites 2 and 5 each with a narrow red stripe basally

in the species compared).

Bionomics. The host plant is unknown. The holotype was netted at an altitude of 600 m and the second known specimen was collected in Vietnam in mid-April.

Habitat. Unknown.

Distribution. Hitherto known from Myanmar and Vietnam (first record).

Material examined: 1 ♀ (holotype), Haute-Birmanie, Etat de Momeit, 600 m, Doherty, 1890 (MNHP); 1 ♀, Vietnam, Pahia, Hue i San, 17. IV. 1950, J. Romieux leg. (MHNG).

Remarks. Although this species has the female genitalia somewhat different from those of *Tinthia varipes* Walker, [1865], the type species of the genus *Tinthia* Walker, [1865], (more short both 8th sclerite and antrum and presence of two signa), we cite it in the original combination. In our opinion, all the presently known genera of Tinthiinae of the Oriental region are in need of a substantial revision.

SIMILIPEPSINI Spatenka, Lastuvka, Gorbunov, Tosevski and Arita

***Similipepsis bicinctata* sp. nov. (Figs 2, 12a-d)**

Description. Male (holotype) (Fig. 2). Alar expanse 12.1 mm; body length 6.8 mm; forewing 5.9 mm; antenna 2.8 mm. Head: antenna black with bluish sheen; frons black; labial palpus black with a broad whitish stripe laterally; vertex and pericephalic hairs black. Thorax: patagium black with violet sheen dorsally and yellow laterally; tegula black with violet sheen, with a large yellow spot at base of forewing anteriorly; mesothorax black; metathorax black with two tufts of white hair-like scales; thorax laterally black with a large yellow spot. Legs: fore coxa dark brown to black with violet sheen, with a large white spot basally; hind tibia black with blue-violet sheen, with two small yellow spots at base of both pairs of spurs externally; spurs pale yellow. Abdomen: 1st segment strongly narrowed distally, 2nd extremely depressed, 3rd slightly expanded distally; dorsaly black with bright violet sheen; tergites 3 and 6 each with a narrow, yellow distal margin; sternites 1+2 and 3 entirely snow-white ventrally; sternites 4, 5 and 7 each entirely black with violet sheen; sternite 6 black with a narrow pale yellow stripe distally; anal tuft small, black. Forewing: costal half, anal margin, Cu-stem and veins M_1 - M_3 dark brown to black with purple-violet sheen; discal spot narrow and short (only between bases of veins M_1 - M_3); remaining surface of wing transparent; cilia dark brown. Hindwing: transparent; veins and outer margin black with purplish sheen; discal spot undeveloped; outer margin about twice narrower than cilia; cilia dark brown.

Male genitalia (holotype, genital preparation No. GA-063) (Fig. 12). Uncus broad, bilobed apically with an acute tip and with a few hairs dorsally; tegumen relatively narrow; gnathos small, simple, sharply protruded (Fig. 12a); valva curved up dorso-apically, nearly entirely covered with long, hair-like, simple setae (Fig. 12b); saccus relatively broad, pointed at tip, very long, about twice as long as vinculum (Fig. 12c); aedeagus (Fig. 12d) about 1.5 times longer than valva, broad basally and considerably narrowed apically, with a strong tooth ventro-apically; vesica without cornuti.

Female. Unknown.

Variability. Unknown.

Diagnosis. At present, only four species of the genus *Similipepsis* Le Cerf, 1911 are known from the Oriental and Palaearctic regions: *lasiocera* Hampson, 1919, *takizawai* Arita et

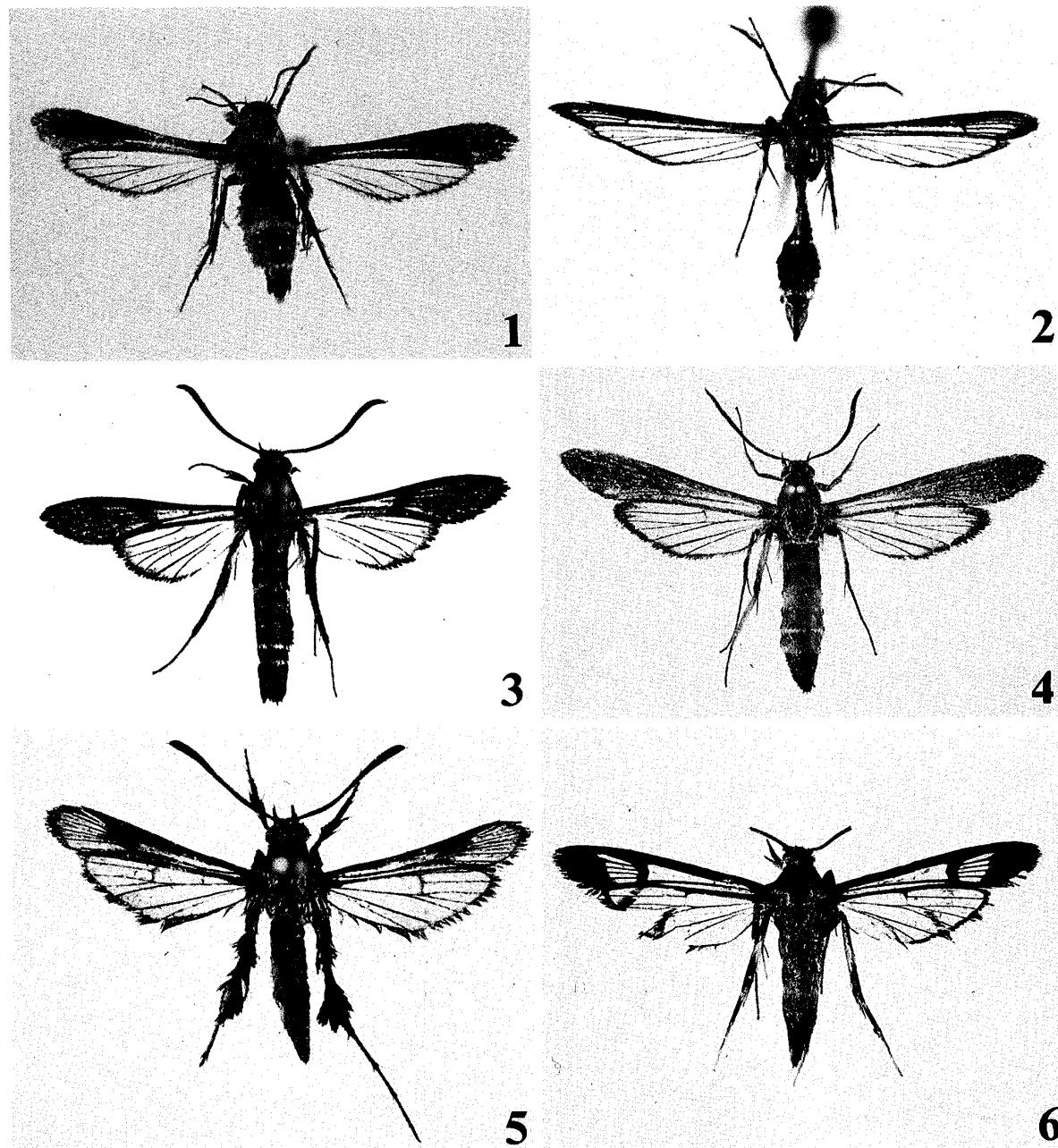
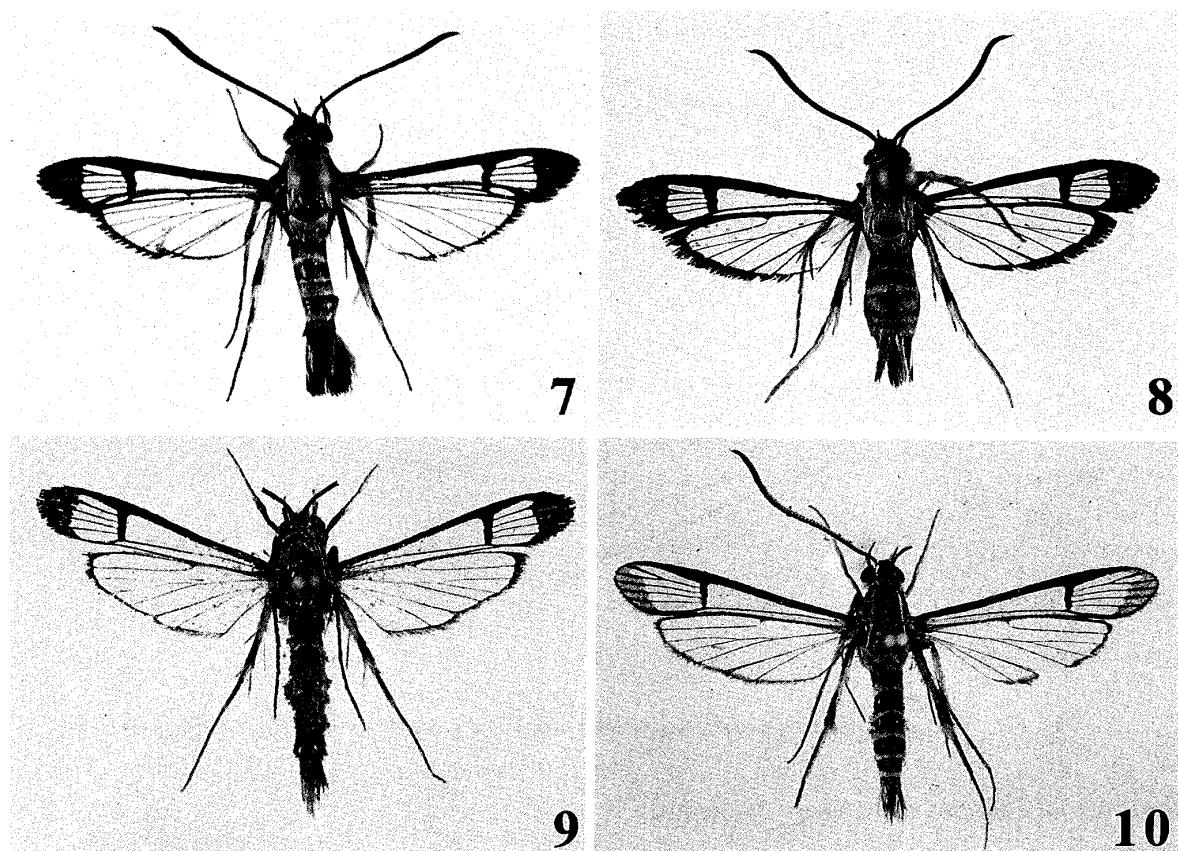


Fig. 1. *Tinthia spilogastra* Le Cerf, 1916. Female (MHNG). Alar expanse 17.8 mm.
Fig. 2. *Similiipepsis bicingulata* sp. nov. Male, holotype (MHNG). Alar expanse 12.1 mm.
Fig. 3. *Cyanosesia tonkinensis* gen. et sp. nov. Male, holotype (CG). Alar expanse 19.2 mm.
Fig. 4. *Cyanosesia vietnamica* sp. nov. Female, holotype (MHNG). Alar expanse 29.0 mm.
Fig. 5. *Aschistophleps xanthocrista* sp. nov. Male, holotype (MHNG). Alar expanse 15.0 mm.
Fig. 6. *Synanthesdon aurifasciatum* sp. nov. Female, holotype (MUT). Alar expanse 22.5 mm.



Figs 7-8. *Ichneumenoptera duporti* (Le Cerf, 1927). 7. Male (CG). Alar expanse 18.0 mm. 8. Female (CG). Alar expanse 20.0 mm.

Fig. 9. *Ichneumenoptera vietnamica* sp. nov. Male, holotype (MHNG). Alar expanse 19.0 mm.

Fig. 10. *Ichneumenoptera caudata* sp. nov. Female, holotype (MHNG). Alar expanse 21.0 mm.

Spatenka, 1989, *yunnanensis* Spatenka et Arita, 1992, and *bicingulata* sp. nov. The first and third of the above species are known only from the type localities: State Assam, northeastern India, and North Yunnan, China, respectively. The second species, *takizawai*, is distributed in the southern part of the Far East of Russia (Maritime Prov.) and in Japan (Hokkaido and Honshu). All of them can be determined by the following key:

1. Forewing nearly transparent, only costal margin or costal half covered with scales 2
- Forewing nearly opaque, transparent areas nearly undeveloped 3
2. Only tergite 2 of abdomen with a narrow white stripe *S. lasiocera*
- Tergites 3 and 6 of abdomen each with a narrow, yellow, distal stripe *S. bicingulata* sp. nov.
3. Forewing basally entirely opaque; sternites 3 and 6 of abdomen each with a narrow, orange distal stripe *S. yunnanensis*
- Forewing with hyaline stripes basally; sternites 3 and 6 of abdomen entirely black *S. takizawai*

Bionomics. The host plant is unknown. The holotype was collected in April.

Habitat. Unknown.

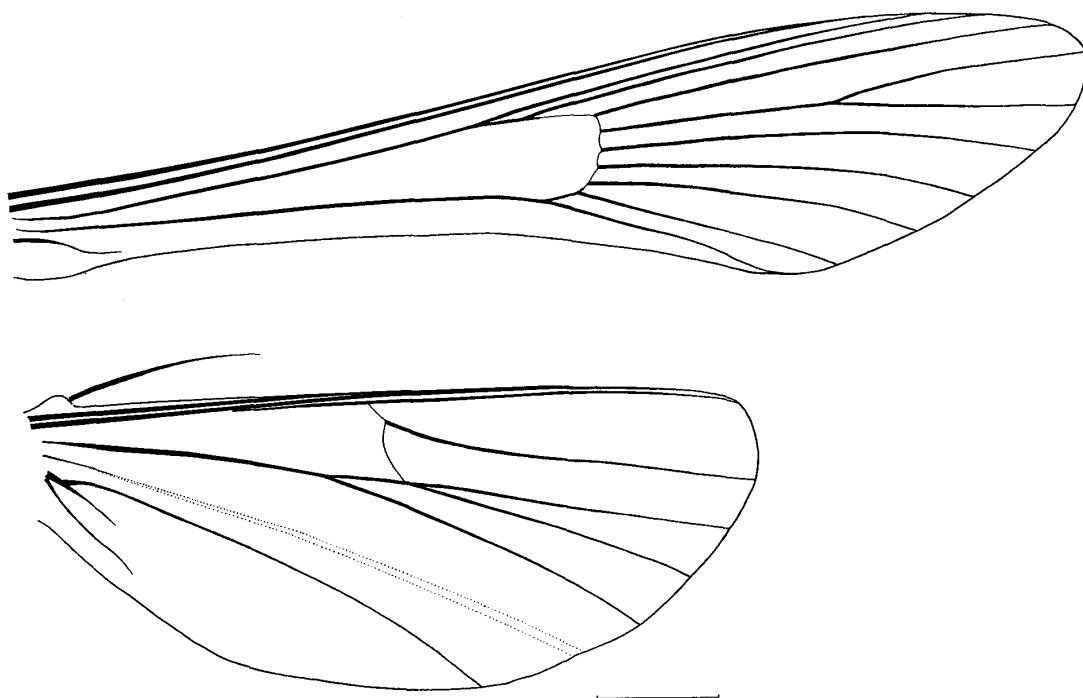


Fig. 11. Venation of *Cyanosesia tonkinensis* gen. et sp. nov. Scale bar: 1.0 mm.

Distribution. Known only from Vietnam.

Material examined: Holotype. ♂, Vietnam, Sam Con à Vang Lom, 10. IV. 1950, J. Romieux leg. (MNHG).

SESIINAE Boisduval

SESIINI Boisduval

***Cyanosesia* gen. nov.**

Type species: *Cyanosesia tonkinensis* sp. nov.

Medium-sized clearwing moths with alar expanse 19–29 mm. Head with antenna relatively slightly clavate, shortly ciliate in male and without cilia in female; proboscis well-developed (functional?). Head and legs without hair-like scales. Forewing with an opaque apical half, sometimes with discal spot present, with cross-vein extending nearly to midway of wing (Fig. 11); R_4 and R_5 long stalked. Hindwing transparent; vein M_2 arising from upper third of cross-vein (Fig. 11); veins M_3 and Cu_1 arising virtually from a point or extremely short stalked. Male genitalia (Fig. 13) with uncus well-developed, with strong setae on inner surface ventro-apically; gnathos rather well-developed, slightly asymmetrical distally (Fig. 13a); valva (Fig. 13b) pentagonal-oval, densely covered with simple hair-like setae at distal margin and with sparse hairs at dorsal margin; crista sacculi well-developed, triangular, with hair-like setae on anterior margin; saccus (Fig. 13c) rounded basally, about as long as vinculum; aedeagus (Fig. 13d) with five, well-sclerotized, strong teeth dorso-apically; vesica (Fig. 13e) with rather long, pointed spinules. Female genitalia (Fig. 18) with papilla analis narrow and small; 8th sclerite and lamella postvaginalis well-sclerotized, broad; posterior apophysis long, about twice longer than anterior apophysis; ostium bursae membranous; antrum short, membranous with a small, narrow, sclerotized plate; ductus bursae short, membranous; corpus bursae ovoid without signa.

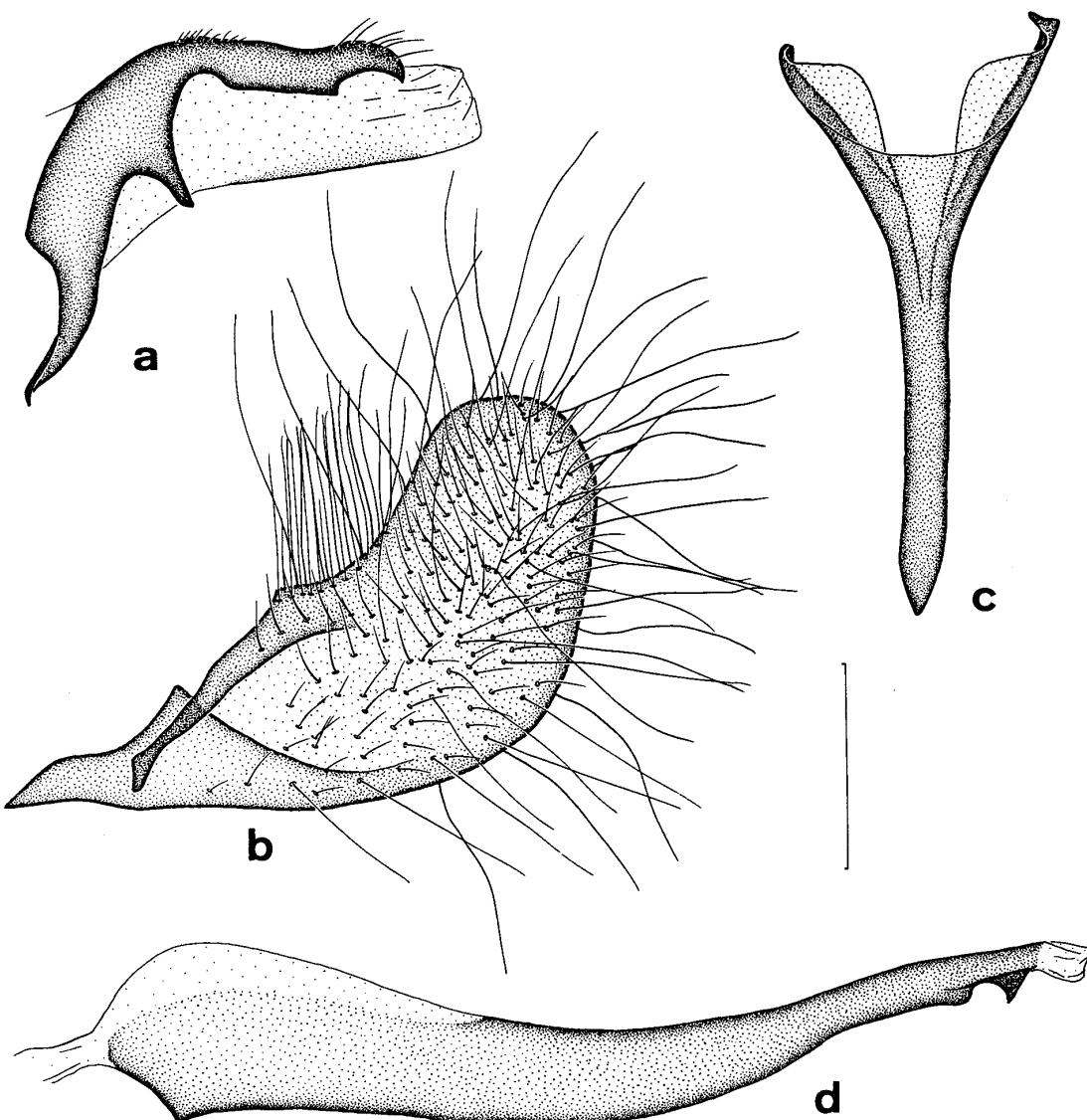


Fig. 12. Male genitalia of *Similiipepsis bicinctulata* sp. nov., holotype (genital preparation No. GA-063). a. Tegumen-uncus complex. b. Valva. c. Saccus. d. Aedeagus.
Scale bar : 0.5 mm.

Diagnosis. By the structure of both male and female genitalia, this genus seems to be closely related with *Eusphecia* Le Cerf, 1937 and *Scasiba* Matsumura, 1931, but *Cyanosesia* gen. nov. differs in the shape and opaque apical half of the forewing; structure of the male antenna (ciliate-unipectinate in *Eusphecia* and *Scasiba*) and in the conformation of the gnathos, crista sacculi and aedeagus of the male genitalia (a very small gnathos in *Eusphecia*, undeveloped in *Scasiba*, and a long crista sacculi, pointed apically, without setae in *Eusphecia* and a long crista sacculi, broadened apically, without setae in *Scasiba*, while the aedeagus apically in the genera compared is without strong teeth). From all species of the genus *Sesia* Fabricius, 1775 (except European *S. melanocephala* Dalman, 1816*) this new genus can be easily distinguished by the structure of the forewing (nearly

* This species has many differences both in morphology and ontogeny from all the presently known species of the genus *Sesia* (*sensu str.*), so it seems to represent a distinct genus. It is quite possible, after a revision of all genera of Oriental Sesiini, the position of this species will come to be more clear.

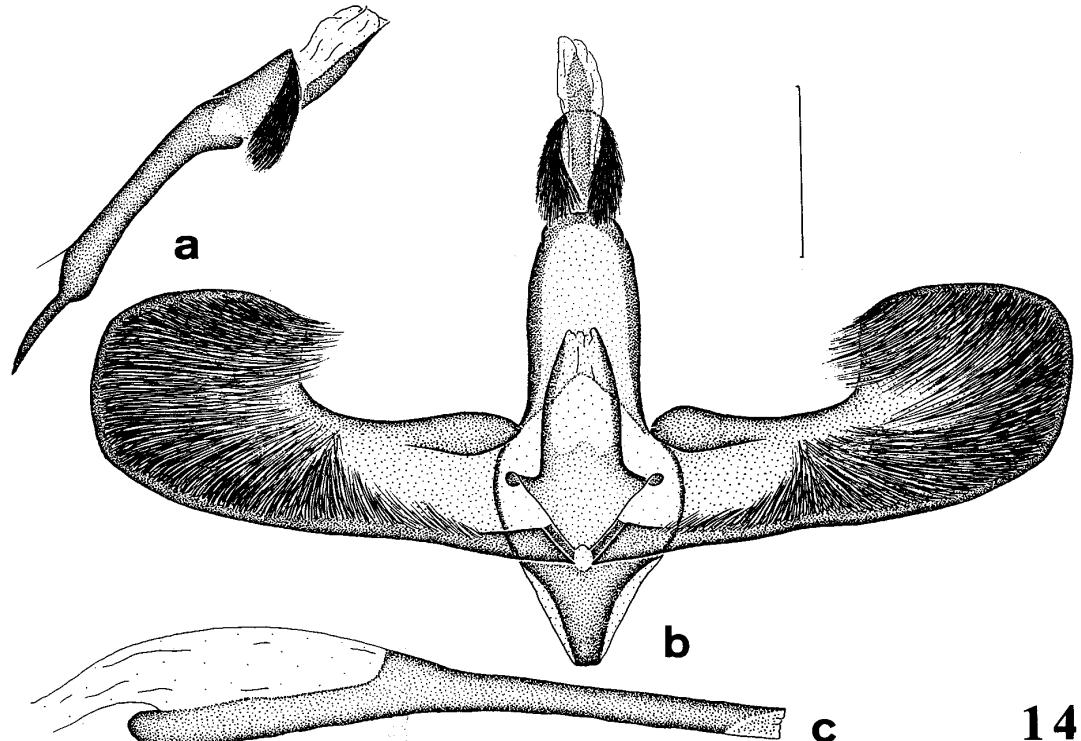
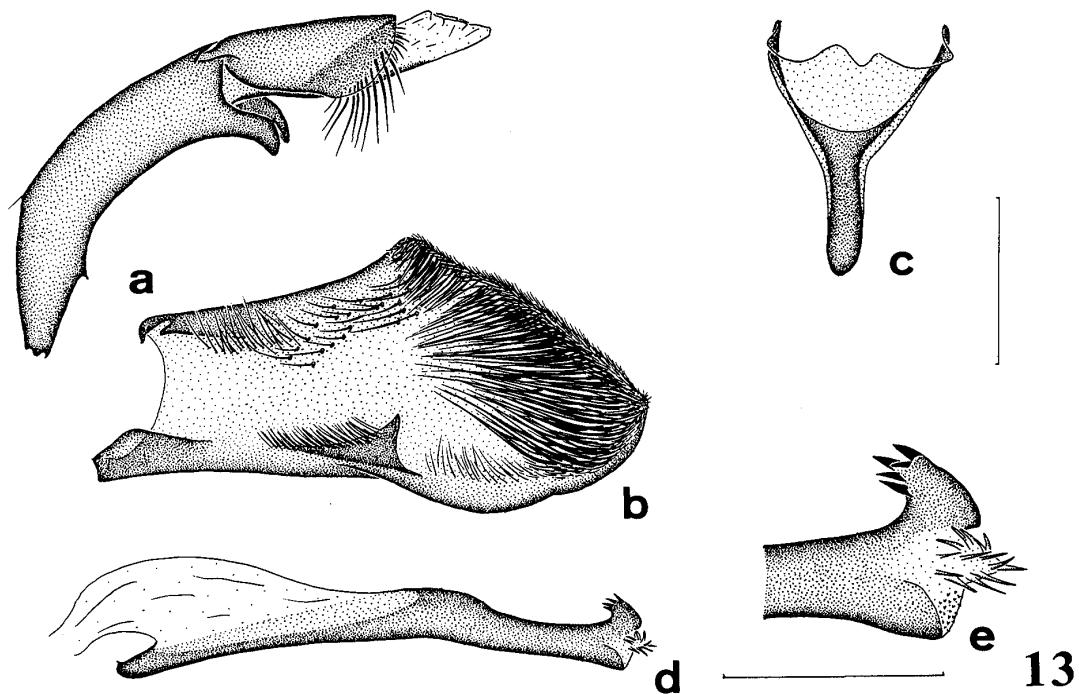


Fig. 13. Male genitalia of *Cyanoesia tonkinensis* gen. et sp. nov., holotype (genital preparation No. GA-062). a. Tegumen-uncus complex. b. Valva. c. Saccus. d. Aedeagus. e. Vesica. Scale bar: 0.5 mm for a-d, 0.25 mm for e.

Fig. 14. Male genitalia of *Aschistophleps xanthocrista* sp. nov., paratype (genital preparation No. GA-047). a. Tegumen-uncus complex, lateral view. b. Ventral view. c. Aedeagus. Scale bar: 0.5 mm.

hyaline and of normal shape in *Sesia*) and by both male and female genitalia (a different shape of the valva and the absence of teeth on the aedeagus apically in the male genitalia and short and broad female genitalia in *Sesia*). From *S. melanocephala* the species of *Cyanosesia* gen. nov. are distinguishable by the shape and structure of the forewing (transparent areas well-developed in *melanocephala*) and by the conformation of the male genitalia (the crista sacculi without setae and the aedeagus without strong teeth apically in *melanocephala*). From *Trilochana* Moore, 1879, *Cyanosesia* gen. nov. can be easily separated by the smaller size, forewing and shape of both male and female genitalia.

Constitution. The genus contains two species : *tonkinensis* sp. nov. and *vietnamica* sp. nov.

Distribution. Both species of the genus are known from Vietnam.

***Cyanosesia tonkinensis* sp. nov.** (Figs 3, 11, 13a-e)

Description. Male (holotype) (Fig. 3). Alar expanse 19.2 mm ; body length 10.6 mm ; forewing 8.6 mm ; antenna 4.8 mm. Head : antenna black with purplish sheen ; frons dark grey with purple-violet sheen, with a narrow white stripe laterally ; labial palpus dark brown to black with violet sheen dorso-externally and lemon-yellow ventro-internally ; vertex black with purple-violet sheen ; pericephalic hairs lemon-yellow dorsally and pale yellow laterally. Thorax : patagium black with greenish sheen dorsally and lemon-yellow laterally ; tegula black with violet sheen, with a small lemon-yellow spot at base of forewing anteriorly ; meso- and metathorax black with green-violet sheen ; thorax laterally black with blue-violet sheen, with a large lemon-yellow spot. Legs : fore coxa black densely mixed with lemon-yellow scales ; hind tibia black with bluish sheen, with a small lemon-yellow spot at base of both pairs of spurs externally and a broad, longitudinal, pale yellow stripe internally ; spurs dark brown to black with purplish sheen. Abdomen : black with purple-violet sheen ; tergite 4 with a narrow, laterally broadened yellow stripe proximally ; tergite 5 with a few yellow scales at proximal margin ; tergites 6 and 7 each with a narrow, white with bluish hue, distal stripe ; sternite 4 with a broad and sternites 5 and 6 each with a narrow yellow stripe proximally ; sternites 6 and 7 each with a narrow, white with bluish hue, distal margin ; anal tuft black with violet sheen. Forewing : costal margin black with violet sheen, with a few yellow scales basally ; Cu-stem, anal margin, discal spot and veins of apical area black with bright violet sheen ; discal spot narrow ; external transparent area nearly undeveloped, looking like somewhat lighter stripes between veins R_3 - Cu_1 ; anterior transparent area short, covered with semihyaline scales with brownish hue ; posterior transparent area well-developed ; cilia dark brown to black with violet sheen. Hindwing : transparent ; veins and outer margin black with violet sheen ; discal spot undeveloped ; outer margin nearly as broad as cilia, covered with sparse scales ; cilia dark brown to black with violet sheen.

Male genitalia (holotype, genital preparation No. GA-062) (Fig. 13). Uncus well-developed, with strong setae on inner surface ventro-apically ; tegumen relatively long and narrow ; gnathos rather well-developed, slightly asymmetrical distally (Fig. 13a) ; valva (Fig. 13b) pentagonal-oval, densely covered with simple hair-like setae at distal margin and with sparse hairs at dorsal margin ; crista sacculi well-developed, triangular, with hair-like setae on anterior margin ; saccus (Fig. 13c) rounded basally, nearly as long as vinculum ; aedeagus (Fig. 13d) nearly as long as valva, with five, well-sclerotized, strong teeth dorso-apically ; vesica (Fig. 13e) with rather long, pointed spinules.

Female. Unknown.

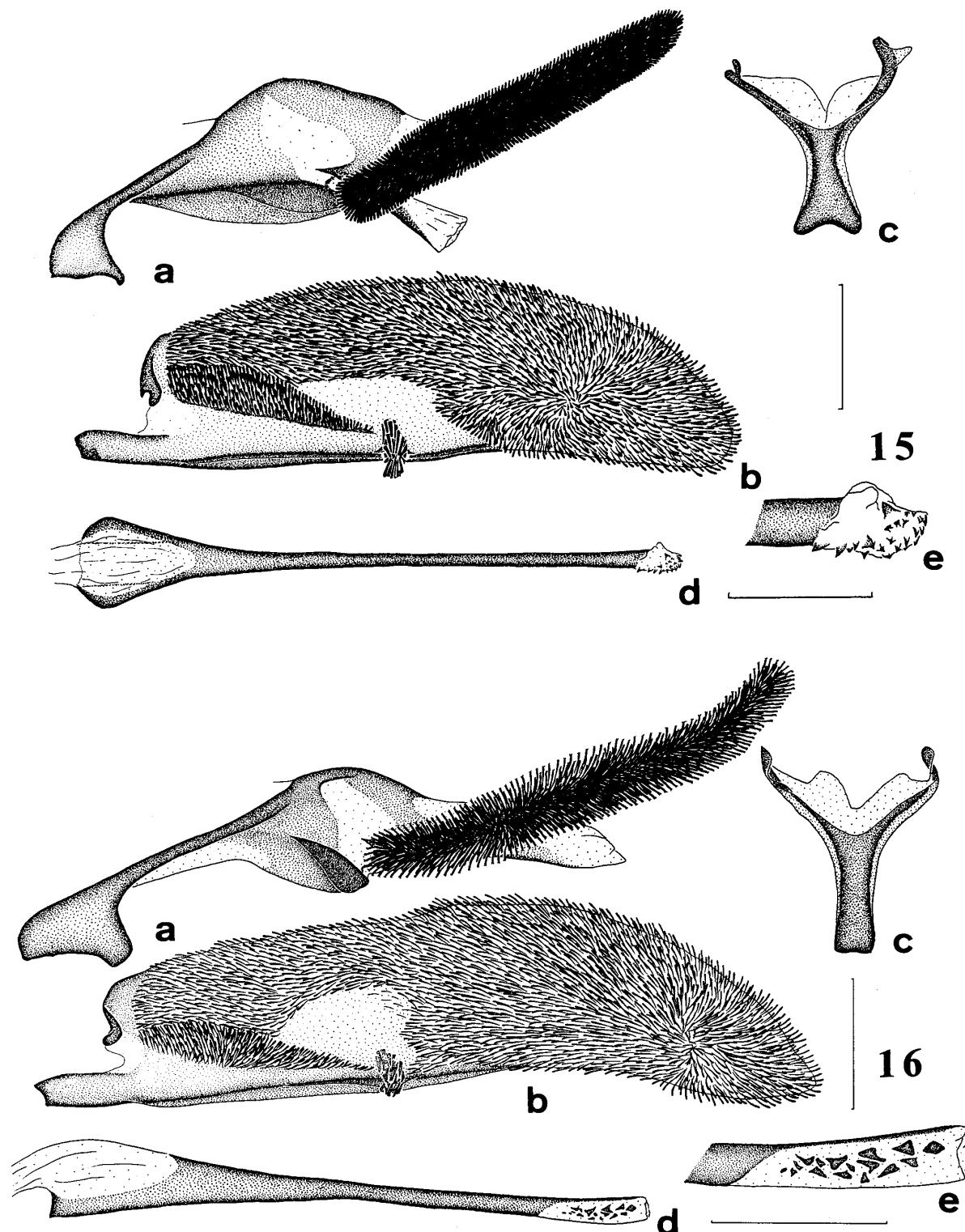


Fig. 15. Male genitalia of *Ichneumenoptera duporti* (Le Cerf, 1927) (genital preparation No. GA-008). a. Tegumen-uncus complex. b. Valva. c. Saccus. d. Aedeagus. e. Vesica. Scale bar: 0.5 mm for a-d, 0.25 mm for e.

Fig. 16. Male genitalia of *Ichneumenoptera vietnamica* sp. nov., holotype (genital preparation No. GA-051). a. Tegumen-uncus complex. b. Valva. c. Saccus. d. Aedeagus. e. Vesica. Scale bar: 0.5 mm for a-d, 0.25 mm for e.

Variability. Unknown.

Diagnosis. Superficially, this new species is similar to *Paranthrene zoneiventris* Le Cerf, 1916, but it can be easily distinguished by the hindwing (discal spot well-developed, vein Cu₁ arising slightly basally of cross-vein in *zoneiventris*), by the coloration of the hind tibia (entirely yellow in *zoneiventris*) and abdomen (tergites 4-6 each with a broad yellow stripe distally in the species compared). From *C. vietnamica* sp. nov., *tonkinensis* sp. nov. differs clearly in the bright metallic sheen of the body and in numerous details of coloration, especially of the hind tibia (yellow with two dark brown rings both basally and apically in the species compared) and abdomen dorsally (tergite 4 yellow-orange; tergites 5 and 6 each with a narrow yellow-orange margin distally in *vietnamica* sp. nov.).

Bionomics. The host plant is unknown. The holotype has been collected in the beginning of May at an altitude of 950 m.

Habitat. Small road through a tropical rain forest.

Distribution. Known only from northern Vietnam.

Material examined: Holotype. ♂, North Vietnam, Vinh Phu Prov., ca. 100 km N of Hanoi, Tam Dao Mt, 950 m, 10. V. 1984, K. Spitzer leg. (CG).

Cyanosesia vietnamica sp. nov. (Figs 4, 18)

Description. Female (holotype) (Fig. 4). Alar expanse 29.0 mm; body length 14.2 mm; forewing 13.8 mm; antenna 7.5 mm. Head: antenna dark brown to black; frons grey-brown with violet sheen, with a narrow snow-white stripe laterally; labial palpus yellow with a broad dark brown stripe externally; vertex dark brown mixed with yellow; pericephalic hairs yellow dorsally and pale yellow to white laterally. Thorax: patagium dark brown mixed with yellow; tegula dark brown with a yellow spot at base of forewing anteriorly and tip; meso- and metathorax dark brown to black with admixture of individual yellow scales; thorax laterally dark grey-brown with violet sheen, mixed with yellow. Legs: fore coxa dark grey-brown with violet sheen, with admixture of individual yellow scales basally; hind tibia yellow with two dark brown rings both basally and apically; spurs yellow with admixture of grey scales externally. Abdomen: dark brown to black; dorsally tergite 4 yellow-orange; tergites 5 and 6 each with a narrow yellow-orange margin distally; ventrally sternite 1+2 with a few yellow-orange scales at distal margin medially; sternite 4 entirely yellow-orange; sternites 5 and 6 each with a narrow, yellow distal margin; anal tuft small, black. Forewing: dark brown to black with violet sheen, with admixture of individual orange scales, with a small yellow-orange spot basally; external transparent area undeveloped; anterior and posterior transparent areas small, narrow, reaching only level of discal spot of hindwing; cilia black with violet sheen. Hindwing: transparent; veins, discal spot and outer margin black with violet sheen; discal spot small, cuneiform, reaching midway between veins M₂ and common M₃-Cu₁ stem; outer margin about twice narrower than cilia, between veins M₁-M₂ and M₂-M₃ with a longitudinal cuneiform projection proximally; cilia black with violet sheen, anally orange.

Female genitalia (holotype, genital preparation No. GA-044) (Fig. 18). Eighth sclerite and lamella postvaginalis relatively broad, well-sclerotized, former with numerous long setae distally; papilla analis small and narrow, well-sclerotized with numerous short setae; posterior apophysis long, about twice longer than anterior apophysis; ostium bursae membranous; antrum short, membranous with a small, narrow, sclerotized plate; ductus bursae relatively broad and short, membranous; corpus bursae ovoid without signum.

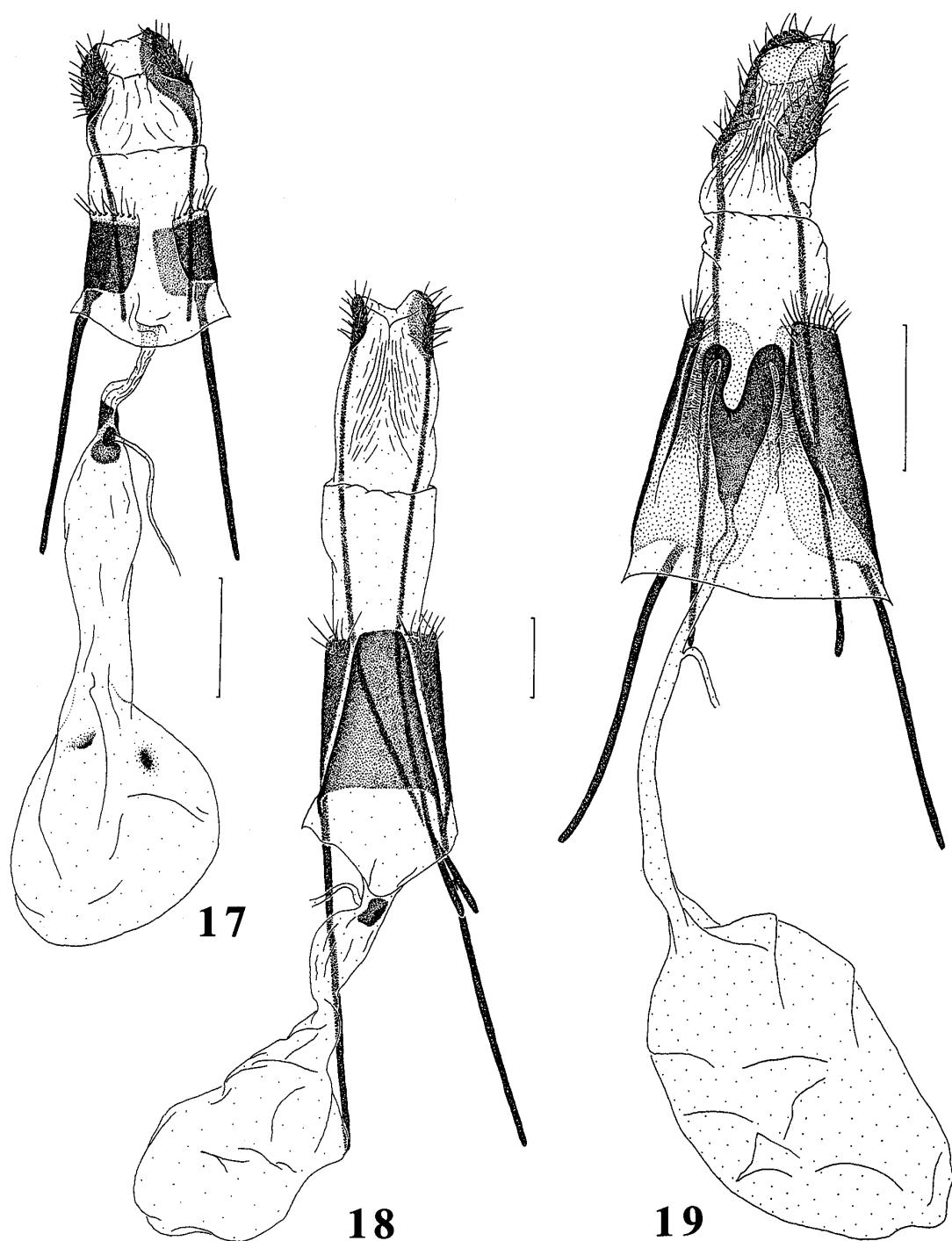


Fig. 17. Female genitalia of *Tinthia spilogastra* Le Cerf, 1916 (genital preparation No. GA-048). Scale bar: 0.5 mm.

Fig. 18. Female genitalia of *Cyanosesia vietnamica* sp. nov., holotype (genital preparation No. GA-044). Scale bar: 0.5 mm.

Fig. 19. Female genitalia of *Synanthesdon aurifasciatum* sp. nov., holotype (genital preparation No. GA-049). Scale bar: 0.5 mm.

Male. Unknown.

Variability. Unknown.

Diagnosis. Superficially, *C. vietnamica* sp. nov. is somewhat similar to several species of the genus *Paradoxecia* Hampson, 1919 (Tinthiinae, Tinthiini), but it can be easily separated by the tribal and generic characters. From *C. tonkinensis* sp. nov., it is distinguishable by numerous details of coloration (see "Diagnosis" for *tonkinensis*).

Bionomics. The host plant is unknown. The holotype was collected in the end of May.

Habitat. Unknown.

Distribution. Known only from Vietnam.

Material examined: Holotype. ♂, Vietnam, Pahia (Arbe Signal), 23. V. 1950, J. Romieux leg. (MHNG).

OSMINIINI Duckworth and Eichlin

***Aschistophleps xanthocrista* sp. nov. (Figs 5, 14a-c)**

Description. Male (holotype) (Fig. 5). Alar expanse 15.0 mm; body length 7.7 mm; forewing 6.7 mm; antenna 4.2 mm. Head: antenna black with violet sheen dorsally and yellow-orange ventrally; frons dark brown with purplish sheen, with a narrow snow-white stripe laterally; labial palpus black with admixture of individual white with purplish sheen and brick-orange scales ventrally; vertex black with bluish sheen; pericephalic hairs black with a few light brown scales dorsally and white laterally. Thorax: patagium black with bronzed sheen; tegula black with a few brick-orange scales and with a large brick-orange spot at base of forewing anteriorly; mesothorax black with a few yellow-orange scales; metathorax black with two tufts of white hair-like scales; thorax laterally dark brown to black with violet sheen, with a large pale yellow spot anteriorly. Legs: fore coxa black with blue-violet sheen, with a narrow brick-orange external margin; hind tibia tufted with hair-like scales at bases of both pairs of spurs, black with green-violet sheen, with a narrow and short stripe basally somewhat proximally of base of mid spurs dorso-internally, and with a longitudinal white to pale yellow spot with golden sheen at base of apical spurs ventro-externally; spurs black; first tarsomere tufted with black hair-like scales. Abdomen: dorsally entirely black with violet sheen, only distal margin of 4th tergite laterally with a few white to pale yellow scales; sternites 1-4 entirely white to pale yellow; sternites 5-7 black mixed with white; anal tuft small, black. Forewing: costal and anal margins black with admixture of brick-orange scales, denser basally; Cu-stem black; discal spot black with a few brick-orange scales at both distal and proximal margins; anterior and posterior transparent areas quite well-developed, but covered with brownish semi-transparent scales; external transparent area large, reaching apical margin of wing, so apical area nearly absent, divided into 6 cells between veins R_3 - Cu_2 ; besides that, cells between veins R_3 - R_{4+5} , R_{4+5} - M_1 , M_1 - M_2 and M_2 - M_3 additionally divided into two parts by a thin longitudinal stripe, about thrice as broad as discal spot; cilia dark brown to black. Hindwing: transparent, but distally of cross-vein densely covered with brownish semitransparent scales; veins and outer margin black; discal spot black mixed with light brown scales at margins, narrow, reaching base of vein Cu_1 ; cilia dark brown.

Male genitalia (paratype, genital preparation No. GA-47) (Fig. 14). Tegumen-uncus complex narrow laterally, but broad ventrally (Fig. 14 a-b); uncus covered with rather short hair-like scales at ventro-apical margin; tegumen very small, narrow; valva abruptly broadened in distal half (Fig. 14b), covered with long hair-like scales; saccus

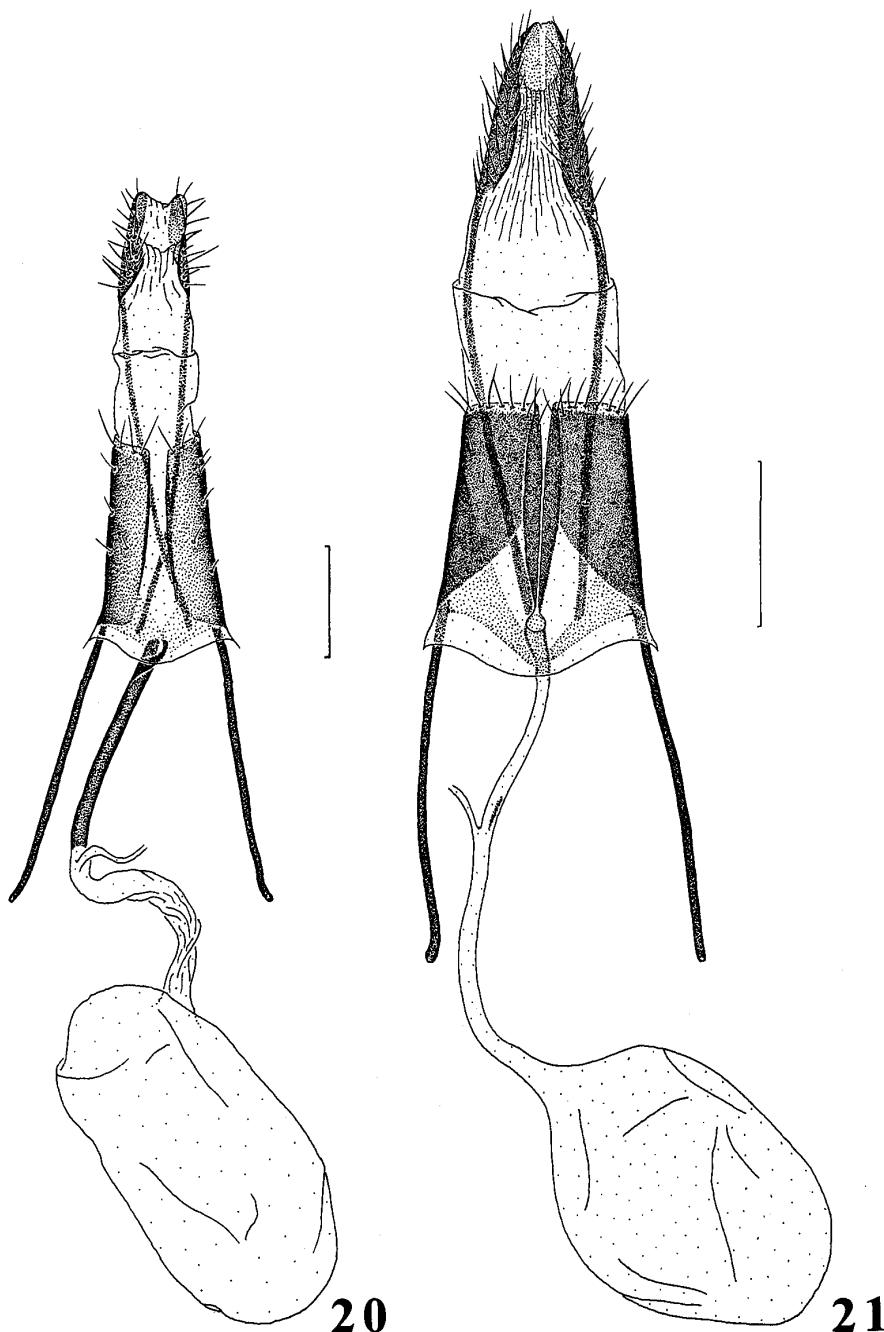


Fig. 20. Female genitalia of *Ichneumenoptera duporti* (Le Cerf, 1927) (genital preparation No. GA-009). Scale bar : 0.5 mm.

Fig. 21. Female genitalia of *Ichneumenoptera caudata* sp. nov., holotype (genital preparation No. GA-054). Scale bar : 0.5 mm.

relatively narrow and short with a flat base; vinculum narrow; aedeagus (Fig. 14c) rather thick, slightly longer than maximum length of valva; vesica with numerous, small, tile-shaped cornuti.

Female. Unknown.

Variability. The second specimen, paratype, differs from the holotype in more brick-orange scales on the forewing and more white scales on sternites 5-7 of the abdomen only. It has the following measurements: alar expanse 15.5 mm; body length 7.5 mm;

forewing 7.0 mm ; antenna 4.2 mm.

Diagnosis. This new species seems to be the closest to *Aschistophleps ruficrista* (Rothschild, 1912), but it can be easily distinguished by the coloration of the hind leg tuft (entirely bright red in the species compared) and entirely transparent hindwing (discal spot broader and surface between veins A_1 and A_2 distally entirely opaque black in *ruficrista*). From *A. cruentata* Swinhoe, 1896 and *A. haematochrodes* Le Cerf, 1912, *xanthocrista* sp. nov. differs clearly in the coloration of the wings, abdomen and hind legs (densely mixed with red or entirely red in these species compared). From *A. lampropoda* Hampson, [1893], *xanthocrista* sp. nov. is distinguishable by the coloration of the hind leg tuft (black mixed with orange in *lampropoda*) and wings (forewing orange basally, hindwing with orange darkening in apical half in *lampropoda*). From *A. metachryseis* Hampson, 1895, *xanthocrista* sp. nov. can be separated by the hyaline stripes on the forewing and entirely transparent hindwing (entirely opaque in *metachryseis*).

Bionomics. The host plant is unknown. The type series was collected in the end of May.

Habitat Unknown.

Distribution. Vietnam.

Material examined: Holotype. ♂, Vietnam, Vang Dom, 27. V. 1950, J. Romieux leg. (MHNG) ; 1 ♂ (paratype), same locality and date, J. Romieux leg. (MHNG).

SYNANTHEDONINI Niculescu

***Synanthesdon aurifasciatum* sp. nov. (Figs 6, 19)**

Description. Female (holotype) (Fig. 6). Alar expanse 22.5 mm ; body length 10.5 mm ; forewing 10.0 mm ; antennae broken off. Head : antenna (basal part) black with violet sheen ; frons grey-brown with purplish sheen, with a broad white stripe laterally ; labial palpus black with purplish sheen dorso-externally and yellow ventro-internally ; vertex black with purple-violet sheen ; pericephalic hairs yellow to pale yellow. Thorax : patagium black with bluish sheen ; tegula, meso- and metathorax entirely black with violet sheen ; thorax laterally black with a large yellow spot. Legs : fore coxa black with green-violet sheen, with a broad yellow margin externally ; hind tibia black with green-blue sheen, with a narrow yellow ring at base of both pairs of spurs ; spurs pale yellow mixed with black. Abdomen : black with violet sheen ; tergite 4 with a narrow, laterally broadened, red-orange distal margin : sternites 4-6 each with a narrow, red-orange, distal margin ; anal tuft black with violet sheen, with red-orange lateral parts. Forewing : costal and anal margins, Cu-stem, veins within external transparent area and apical area black with green-violet sheen ; discal spot narrow, black with greenish sheen, with a few red-orange scales at distal margin ; transparent areas well-developed ; external transparent area trapeziform, divided into 5 cells, about twice as broad as discal spot and somewhat narrower than apical area ; cilia black with greenish sheen. Hindwing : transparent ; veins, discal spot and outer margin black with violet sheen ; discal spot small, cuneiform, reaching base of vein M_2 ; outer margin about twice narrower than cilia ; cilia black with greenish sheen.

Female genitalia (holotype, genital preparation No. GA-049) (Fig. 19). Eighth sclerite relatively large and broad with a few setae at distal margin ; posterior apophysis long, about twice as long as anterior apophysis ; ostium bursae well-sclerotized, large, broad, funnel-shaped, with a deep oval cut ventrally ; antrum narrow, membranous ; ductus bursae narrow, long, membranous ; corpus bursae membranous, ovoid, without signum.

Male. Unknown.

Variability. Unknown.

Diagnosis. There is no so-called "red-banded" species of the genus *Synanthedon* in the Oriental region, so we compare it with species from the Palaearctic. In the shape of the external transparent area of the forewing, *aurifasciatum* sp. nov. is somewhat similar to *formicaeforme* (Esper, 1783), *sericum* (Alphéraky, 1882), and *herzi* Spatenka et Gorbunov, 1992, but it differs clearly from them in the entirely black apical area of the forewing (with red-orange or orange scales between veins in these species compared). From *talischense* (Bartel, 1906) and *culiciforme* (Linnaeus, 1758), this new species can be separated by the entirely black costal margin of the forewing (mixed with red in these species compared) and coloration of the anal tuft (entirely black in *talischense* and *culiciforme*). From *hongye* Yang, 1985, *aurifasciatum* sp. nov. differs in the coloration of the apical area of the forewing (red in the species compared) and abdomen dorsally (tergites 4–6 each with a narrow red margin distally, anal tuft entirely black in *hongye*). From other "red-banded" congeners, *aurifasciatum* sp. nov. can be easily distinguished by the numerous differences in body structure. In addition, *aurifasciatum* sp. nov. differs from all other species of *Synanthedon* in the shape of the ostium bursae of the female genitalia.

Bionomics. The host plant is unknown. The holotype was collected in the end of July.

Habitat. Rain tropical forest at an altitude of about 1,200 m.

Distribution. Known only from the type locality in North Vietnam.

Material examined: Holotype. ♀, North Vietnam, Vinh Phu Prov., ca. 100 km N of Hanoi, Tam Dao Mt, 1,200 m, 29. VII. 1992, S. Nagai leg. (MUT).

Ichneumenoptera duporti (Le Cerf), comb. nov. (Figs 7–8, 15a–e, 20)

Synanthedon duporti Le Cerf, 1927: 147. Type locality: Vietnam, Tonkin, Cho Ganh. Holotype male (MNHP); Gaede, 1933: 780 (*Synanthedon*); Heppner & Duckworth, 1981: 30 (*Synanthedon*).

Redescription. Male (Fig. 7). Alar expanse 16.5–19.5 mm; body length 9.0–12.0 mm; forewing 7.5–9.0 mm; antenna 5.0–6.5 mm. Head: antenna black with green-violet sheen dorsally and light brown with a few yellow scales ventrally; frons white with a large grey spot mixed with yellow scales medially; labial palpus yellow with a narrow black stripe on apical half externally; vertex black with purplish sheen; pericephalic hairs yellow with a few black scales dorsally and pale yellow laterally. Thorax: patagium black with violet sheen; tegula black with purplish sheen, with broad yellow margins; mesothorax black with a few yellow scales anteriorly; metathorax yellow; thorax laterally yellow with a few black scales. Legs: fore coxa yellow with a small, narrow, longitudinal spot medio-basally; hind tibia black with green-blue sheen, internally and at base of both pairs of spurs yellow; spurs yellow. Abdomen: black with violet sheen; tergite 3 with a narrow, yellow distal margin; tergite 5 with a few yellow scales at distal margin; tergites 1, 2, 4 and 6 with a broad, yellow distal margin; tergite 7 with yellow scales medially; sternite 3 black, others densely mixed with yellow scales; both medial and lateral parts of anal tuft black with green-violet sheen, with a narrow yellow stripe laterally. Forewing: basally black with a large yellow spot; costal margin black with greenish sheen, with a few yellow scales; Cu-stem, anal margin and veins within external transparent area black with green-violet sheen; discal spot narrow, black with purplish sheen; apical area black with purplish sheen, with a few yellow scales between veins R_4 – M_2 ; transparent areas well-developed; external transparent area large, divided into 6 cells (cell between veins R_4 and R_5 small), about 4.5–5.0 times as broad as discal spot and about 1.5 times as broad as apical area; cilia dark brown with bronzed sheen. Hindwing: transparent; veins, discal spot and outer margin black

with violet sheen; discal spot small, cuneiform, reaching base of vein M_2 ; outer margin narrow, about twice narrower than cilia; cilia brown with bronzed sheen, anally yellow.

Male genitalia (genital preparation No. GA-008) (Fig. 15). Tegumen-uncus complex (Fig. 15a) relatively broad; scopula androconialis well-developed, nearly as long as tegumen-uncus complex; crista gnathi lateralis small, narrow, oval; crista gnathi medialis relatively broad, oval; valva (Fig. 15b) oval, crista sacculi nearly flat, covered with somewhat thicker setae than those of most part of valva, ventral crista relatively large, with flat-topped setae; saccus with a bifurcate base, about as long as vinculum (Fig. 15c); aedeagus (Fig. 15d) relatively narrow, slightly shorter than valva; vesica (Fig. 15e) with numerous, strong, pointed cornuti.

Female (Fig. 8). Alar expanse: 18.0–22.0 mm; body length 8.5–13.0 mm; forewing 8.0–10.0 mm; antenna 5.5–8.0 mm. Head: antenna black with violet sheen dorsally and light brown with a yellow base ventrally; frons pale yellow with a large grey spot mixed with yellow medially; labial palpus yellow with a few black scales extro-apically; vertex black with purplish sheen; pericephalic hairs yellow dorsally and pale yellow laterally. Thorax: patagium black with purplish sheen dorsally and yellow laterally; tegula yellow with a black spot at base of forewing; mesothorax black with violet sheen, with a relatively broad yellow stripe medio-anteriorly, and with a V-shaped, broad, yellow stripe posteriorly; metathorax and thorax laterally entirely yellow. Legs: fore coxa entirely yellow; hind tibia yellow with a broad ring with green-blue sheen at base of apical spurs; spurs yellow. Abdomen: dorsally black with green-purple sheen; tergite 1 entirely yellow; tergites 2 and 3 each with a yellow distal half; tergites 4–6 yellow each with a narrow, black proximal margin; ventrally sternite 3 yellow with a narrow, black, proximal margin; other sternites entirely yellow; anal tuft yellow mixed with black. Forewing: basally black with a large yellow spot; costal margin black with greenish sheen, with a narrow, longitudinal yellow line; Cu-stem and anal margin black with greenish sheen, with a few yellow scales basally; discal spot narrow, black with green-blue sheen; veins within external transparent area black with purplish sheen, veins M_1 and M_2 yellow basally; apical area black with purplish sheen, with a narrow yellow stripe between veins R_4 – M_3 ; transparent areas well-developed; external transparent area large, divided into 6 cells (cell between veins R_4 and R_5 minute), about 4.0–4.5 times as broad as discal spot and about 1.3–1.5 times as broad as apical area; cilia dark brown with bronzed sheen. Hindwing: transparent; veins, discal spot and outer margin black with violet sheen; discal spot small, cuneiform, reaching base of vein M_2 ; outer margin narrow, about twice narrower than cilia; cilia brown with bronzed sheen, anally yellow.

Female genitalia (genital preparation No. GA-009) (Fig. 20). Eighth segment broad with a few relatively short setae; papilla analis relatively small and narrow, covered with long setae; posterior apophysis somewhat longer than anterior apophysis; oustium bursae narrow, slightly sclerotized; antrum narrow, long, well-sclerotized, with a finger-shaped appendix posteriorly; ductus bursae nearly as long as antrum, membranous; corpus bursae ovoid, membranous, without signum.

Variability. Both males and females vary in individual size. Thus, Le Cerf (1927) in the original description of the type specimens indicated an even larger alar expanse of 20.0–23.0 mm for males and 20.5–25.0 mm for females than we mentioned herein. In addition, this species varies in the number of yellow scales on the abdomen and on the apical area of the forewing.

Diagnosis. This species seems to be the closest to *Synanthedon subauratus* Le Cerf, 1916 and *Aegeria uranauges* Meyrick, 1926. From *subauratus*, *duporti* is distinguishable by

the darker coloration of the thorax, abdomen and forewing (scales on the thorax, abdomen and apical area of the forewing bright orange-yellow in *subauratus*), the entirely black discal spot of the forewing (with a few orange scales at the distal margin in *subauratus*) and by the narrower stripes of the abdomen and coloration of the anal tuft (4th tergite entirely orange-yellow, tergites 5 and 6 each with a very broad, orange-yellow distal margin, anal tuft in female entirely orange-yellow, in the species compared). From *uranauges*, *duporti* differs in the narrower external transparent area of the forewing (external transparent area about 5.5 times broader than discal spot and about 2.5 times broader than apical area in the species compared) and in the entirely black discal spot of the forewing (with a few yellow-orange scales at the distal margin in *uranauges*). From *Conopia aurifera* Hampson, 1919, *C. subtilima* Bryk, 1947 and *Ichneumonoptera xanthosoma* Hampson, [1893], *duporti* can be distinguished by the narrower external transparent area of the forewing (extremely broad in these species compared). In addition, *duporti* is easily distinguishable from *subtilima* by the coloration of the anal tuft in the male (orange-pinkish laterally in *subtilima*). From *Sesia anisozona* Meyrick, 1918 and *Aegeria flavicaudata* Moore, 1887, *duporti* can be separated by the coloration of the apical area of the forewing (without yellow scales between veins in these species compared). From *Aegeria laticivora* Meyrick, 1927, *Conopia theobroma* Bradley, 1957, *C. ignicauda* Hampson, 1919, *Sesia rhodothictis* Meyrick, 1918, *C. opalizans* Hampson, 1919, *Synanthedon versicolor* Le Cerf, 1916 and *A. simois* Druce, 1899, this species can be easily distinguished by the shape of the external transparent area of the forewing. In the first two species it is relatively narrow, but the cell between veins R_3 and R_4 is longer than others, and in the other species the cell between veins R_4 and R_5 is very long.

Bionomics. The host plant of this species is *Rubus* sp. (Rosaceae) which is superficially very similar to the Japanese *R. sieboldii*. The larva lives inside a gall-like broadening on the stem about 1 m above ground level where it makes a short tunnel 3–5 cm long. It pushes out the bored deposits very actively. Pupation takes place inside the tunnel without constructing a cocoon. Imagines appear in the second half of April. The life cycle is possibly univoltine.

Habitat. Borders of forest, small clearings and road sides insides the tropical rain forest.

Distribution. Known from North Vietnam only.

Material examined: 6 ♂ 12 ♀, North Vietnam, Tonkin, Vinh Phu Prov., ca. 100 km N of Hanoi, Tam Dao Mt, 900 m, 1. III. 1989, ex larvae, emerged 15–21. IV. 1989, O. Gorbunov leg. (CG, MUT).

Ichneumonoptera vietnamica sp. nov. (Figs 9, 16a–e)

Description. Male (holotype) (Fig. 9). Alar expanse 19.0 mm; body length 12.5 mm; forewing 9.0 mm; antennae broken off. Head: antenna broken off except for a few basal joints, black with green-blue sheen; frons grey-brown with purple-violet sheen, with a broad white stripe laterally; labial palpus dark brown with purplish sheen dorso-externally and yellow ventro-internally; vertex black with greenish sheen; pericephalic hairs yellow dorsally and pale yellow laterally. Thorax: patagium black with green sheen; tegula black with greenish sheen, with a narrow, yellow inner margin; meso- and metathorax black with green-violet sheen; thorax laterally dark brown with violet sheen. Legs: fore coxa pale yellow with a broad yellow inner margin; hind tibia on basal half yellow with admixture of individual black scales with violet sheen externally; apical half black with violet sheen, with a narrow yellow ring apically; spurs pale yellow. Abdomen: dorsally black with bright green sheen; tergites 2 and 3 each with

a narrow, yellow distal margin; tergite 4 with a narrow, laterally broadened, yellow margin distally; ventrally entirely yellow; anal tuft black with a long, pale yellow medial part. Forewing: costal and anal margins, Cu-stem, discal spot and veins within external transparent area black with dark violet sheen; apical area black with dark violet sheen with a few yellow scales between veins R_5 - M_1 and M_1 - M_2 ; transparent areas well-developed; external transparent area large, divided into 6 cells (cell between veins Cu_1 and Cu_2 small), about 5 times as broad as discal spot and about 2.7 times as broad as apical area; cilia dark brown with bronzed sheen. Hindwing: transparent; veins, discal spot and outer margin narrowly black with bronzed-violet sheen; discal spot extremely small, cuneiform, reaching base of vein M_2 ; outer margin about thrice as narrow as cilia; cilia dark brown with bronzed sheen.

Male genitalia (holotype, genital preparation No. GA-051) (Fig. 16). Tegumen-uncus complex (Fig. 16a) narrow; scopula androconialis well-developed, long, nearly as long as tegumen-uncus complex; crista gnathi lateralis small, narrow, subcardiform; crista gnathi medialis relatively broad, oval; valva (Fig. 16b) trapeziform-oval, crista sacculi flat, covered with same setae as most part of valva, ventral crista small, with short, flat-topped setae; saccus with a nearly flat base, nearly as long as vinculum (Fig. 16c); aedeagus (Fig. 16d) relatively narrow, about 1.5 times as short as valva; vesica (Fig. 16e) with numerous, irregular, nearly flat cornuti.

Female. Unknown.

Variability. Unknown.

Diagnosis. This new species seems to be the closest to *Ichneumenoptera flava* (Moore, 1879), but it differs in the coloration of the frons (silver-white with a small grey-brown spot medially in the species compared) and more dark coloration of the legs (nearly entirely yellow in *flava*), abdomen (tergites 1, 3, 5 and 6 each with a narrow and 2 and 4 each with a broad yellow margin distally; anal tuft yellow mixed with dark brown scales laterally in the species compared) and apical area of the forewing (yellow with dark brown to black veins in *flava*), as well as by the shape of the external transparent area of the forewing (rectangular and somewhat narrower in the species compared). From *duporti* Le Cerf, 1927, *vietnamica* sp. nov. can be distinguished by the shape of the external transparent area of the forewing (with a small cell between veins R_4 and R_5 in the species compared) and by numerous details in the male genitalia (compare with Fig. 15a-e). From *Synanthedon subauratus* Le Cerf, 1916, and *Aegeria uranauges* Meyrick, 1926, this new species is separable by the more dark coloration of the abdomen and forewing and by the shape of the external transparent area of the forewing (both species compared have a small hyaline cell between veins R_4 - R_5). Also, by the shape of the external transparent area of the forewing, *vietnamica* sp. nov. is easily distinguishable from *Aegeria laticivora* Meyrick, 1927, and *Conopia theobroma* Bradley, 1957, but both species compared have it somewhat narrower, and the cell between veins R_3 and R_4 is the longest.

Bionomics. The host plant is unknown. The holotype was netted in the end of May.

Distribution. Known from Vietnam only.

Material examined: Holotype. ♂, Vietnam, Pahia, 22. V. 1950, J Romieux leg. (MHNG).

Ichneumenoptera caudata sp. nov. (Figs 10, 21)

Description. Female (holotype) (Fig. 10). Alar expanse 21.0 mm; body length 10.5 mm; forewing 9.5 mm; antenna 8.3 mm. Head: antenna black with purplish sheen dorso-

externally and yellow ventro-internally; frons snow-white with a few brownish scales medially; labial palpus yellow to pale yellow with a few black scales apically; vertex dark brown to black with purplish sheen, with a few yellow scales at base of antenna; pericephalic hairs yellow to pale yellow. Thorax: patagium black with purple-green sheen dorsally and yellow laterally; tegula black with greenish sheen, with a relatively broad, yellow inner margin and a yellow spot at base of forewing anteriorly; mesothorax black with purplish sheen, with a narrow, caudally bifurcate, yellow medial stripe; metathorax yellow with pinkish hue; thorax laterally yellow mixed with brown. Legs: fore coxa entirely pale yellow; hind tibia yellow to pale yellow with a narrow black stripe with purplish sheen dorsally at base and with a large black spot with purplish sheen externally at apex; spurs pale yellow. Abdomen: dorsally dark brown with green-violet sheen; all tergites with a narrow, yellow with pinkish hue, distal margin; ventrally entirely pale yellow with pinkish hue; anal tuft dark brown mixed with yellow scales with pinkish hue. Forewing: costal margin black with purplish sheen, with two very narrow, longitudinal, yellow-orange stripes; Cu-stem black with purplish sheen; anal margin yellow-orange mixed with black scales with purplish sheen; discal spot black with purplish sheen, with a narrow and small orange spot distally; veins within external transparent area black with a few orange scales basally; apical area yellow with broad black veins; transparent areas well-developed; external transparent area large, divided into 6 cells, including elongate cell between veins R_4 and R_5 , about 8 times as broad as discal spot and 2.5 times as broad as apical area; cilia grey-brown with bronzed sheen. Hindwing: transparent; veins black mixed with yellow; discal spot and outer margin orange; discal spot extremely small, cuneiform, reaching base of vein M_2 ; outer margin about twice as narrow as cilia (somewhat broader between veins A_1 and A_2); cilia grey-brown with bronzed sheen.

Female genitalia (holotype, genital preparation No. GA-054) (Fig. 21). Eighth segment broad with a few relatively short setae dorsally and relatively long ones at distal margin; papilla analis relatively large and broad, covered with short setae; posterior apophysis somewhat longer than anterior apophysis; ostium bursae narrow; membranous; antrum narrow, long, membranous; ductus bursae nearly as long as antrum, membranous; corpus bursae ovoid, membranous, without signum.

Male. Unknown.

Variability. Unknown.

Diagnosis. This species seems to be the closest to *Conopia aurifera* Hampson, 1919, and *Synanthedon pentazona* Meyrick, 1918. From *aurifera*, *caudata* sp. nov. can be distinguished by the coloration of the colored scales on the head, legs, abdomen and forewing (orange in the species compared), base of forewing (densely mixed with orange scales in *aurifera*), shape and coloration of the discal spot of the forewing (broader and distal margin entirely red in the species compared). From *pentazona*, *caudata* sp. nov. is clearly distinguishable by the coloration of the forewing (anal margin entirely red-orange, apical area red-orange with black veins, discal spot black proximally and red-orange distally in the species compared) and hindwing (outer margin red-orange, nearly as broad as cilia in *pentazona*). From other Oriental species with an elongate cell between veins R_4 - R_5 in the external transparent area of the forewing, such as *Conopia ignicauda* Hampson, 1919, *C. opalizans* Hampson, 1919, *Sesia rhodothictis* Meyrick, 1918, *Synanthedon versicolor* Le Cerf, 1916 and *Aegeria simois* Druce, 1899, this new species differs in various combinations of important characters (coloration of the head, legs, abdomen and forewing, shape and size of external transparent area of the forewing, etc.).

Bionomics. The host plant is unknown. The holotype was collected in the end of May.

Habitat. Unknown.

Distribution. Known only from the type locality in Vietnam.

Material examined : Holotype. ♂, Vietnam, Pahia, Nam Ngevn, 23. V. 1950, J. Romieux leg. (MHNG).

Acknowledgements

We would like to express our cordial thanks to Dr D. B. Burckhardt, Muséum d'Histoire Naturelle, Genève, Switzerland, and Dr S. I. Golovatch, Institute for the Problems of Ecology and Evolution, Russian Academy of Sciences, Moscow, Russia for the possibility to study this highly interesting collection. We also have to once more thank Dr S. I. Golovatch for his linguistic help.

References

Arita Y. & O. G. Gorbunov, 1995. A revision of the genus *Heterosphecia* Le Cerf, 1916 (Lepidoptera : Sesiidae, Osminiini). *Tinea* 14 : 131-141.

Dalla Torre, K. W. von & E. Strand, 1925. Aegeriidae. In Strand, E. ed., *Lepid. Cat.* 31. 202 pp. Berlin.

Gaede, M., 1933. Familie: Aegeriidae. In Seitz, A. ed., *Die Gross-Schmetterlinge der Erde* 10 : 775-802, pls 94-95. Stuttgart.

Gorbunov, O. G., 1988 [A new contribution to the knowledge of clearwing moths (Lepidoptera, Sesiidae) of Vietnam.] In Medvedev, L. N. & B. R. Striganova, ed., *The Fauna and Ecology of Insects of Vietnam* : 192-198, figs 1-4. Moscow (in Russian).

Gorbunov O. G. & Y. Arita, 1995a. A new genus and species of the clearwing moth tribe Osminiini from the Oriental Region (Lepidoptera, Sesiidae). *Trans. lepid. Soc. Japan* 46 : 17-22.

_____, 1995b. A revision of Frederic Moore's clearwing moth types (Lepidoptera, Sesiidae) at Humboldt University, Berlin. *Tinea* 14 (in press).

Hampson, G. F., 1919. A classification of the Aegeriidae [sic] of the Oriental and Ethiopian Regions. *Novit. zool.* 26 : 46-119.

Heppner, J. B. and W. D. Duckworth, 1981. Classification of the superfamily Sesioidea (Lepidoptera : Ditrysia). *Smithson. Contr. Zool.* 314 : 1-144.

Le Cerf, F., 1912. Description de deux Aegeriidae nouvelles (Lepidoptera). *Bull. Soc. ent. Fr.* 1912 : 290-292.

_____, 1916. In Oberthür, C., Éxlication planches. *Étud. Lépid. comp.* 12 (1) : 14, pls. 373-381.

_____, 1917. Contributions à l'étude des Aegeriidae: Description et iconographie d'espèces et de formes nouvelles ou peu connues. *Étud. Lépid. comp.* 14 : 137-388.

_____, 1927. Aegeriidae nouvelles du Tonkin. *Encycl. ent.* (B)3 2 : 147-149.

摘要

ベトナム産スカシバガ（鱗翅目、スカシバガ科）の新種とあまり知られていない種（Oleg G. Gorbunov・有田 豊）

イス、ジュネーブの自然史博物館に保管されているスカシバガと著者たちのスカシバガ、さらにフランス、パリの自然史博物館の *Tinthia spilogastra* Le Cerf, 1916 と *Synanthedon duporti* Le Cerf, 1927 のタイプ標本を調査した。本報では、1新属と7新種を記載し、2既知種（1新記録種を含む）を記録した。これでベトナムから22種類のスカシバガが記録されたことになる。

Tinthiinae Le Cerf

Tinthiini Le Cerf

1. *Tinthia spilogastra* Le Cerf, 1916 (Figs 1, 17)

ビルマ（ミャンマー）から記載された小さな種で、今回1♀をベトナムから新しく記録した。

Similipepsi Spatenka, Lastuvka, Gorbunov, Tosevski & Arita

2. *Similipepsis bicinctata* sp. nov. (Figs 2, 12a-d)

日本産のコシボソスカシバに非常に良く似ている種で、1♂が知られているのみである。

Sesiinae Boisduval

Sesiini Boisduval

Cyanosesia gen. nov.

中型のスカシバガで、♂の触角の纖毛は非常に短く、前翅は細長い。♂ゲニタリアは *Eusphecia*, *Scasiba*, *Sesia* 属などと非常に異なる。Type species: *Cyanosesia tonkinensis* sp. nov.

3. *Cyanosesia tonkinensis* sp. nov. (Figs 3, 11, 13a-e)

Paranthrene zoneiventris Le Cerf, 1916 に良く似るが、後翅の中室紋や Cu₁ の位置などで区別できる。

4. *Cyanosesia vietnamica* sp. nov. (Figs 4, 18)

前種に非常に良く似るが、腹部背面第4節と5,6節後縁が橙黄色なので区別される。

Osminiini Duckworth & Eichlin

5. *Aschistophleps xanthocrista* sp. nov. (Figs 5, 14a-c)

後脚の長い特異な種で、同属の *A. ruficrista* (Rothschild), *A. cruentata* Swinhoe, *A. haematochrodes* Le Cerf, *A. lampropoda* Hampson, *A. metachryseis* Hampson などとは前後翅、腹部、後脚などの色彩で区別される。

Synanthesdonini Niculescu

6. *Synanthesdon aurifasciatum* sp. nov. (Figs 6, 19)

腹部第4節背面に赤橙色の帯をもつ種で、1♂のみで記載した。

7. *Ichneumenoptera duporti* (Le Cerf), comb. nov. (Figs 7-8, 15a-e, 20)

この種はすでに Le Cerf によって 1927 年にベトナム、トンキンから記載されている。著者の一人 (Gorbunov) は今回新たに日本産のホウロクイチゴに極めて良く似ているキイチゴ属の 1 種から本種の幼虫を見いだした。幼虫は食草の地上 1 m 位の所に少し膨らんだゴールを形成し、3-5 cm の短いトンネルを作っている。3月1日に採集した幼虫は4月15-21日の間に 6♂ 12♀ 羽化した。

8. *Ichneumenoptera vietnamica* sp. nov. (Figs 9, 16a-e)

この属の他のおおくの近似種に似るが、腹部の帯の色彩で区別される。

9. *Ichneumenoptera caudata* sp. nov. (Figs 10, 21)

前種同様近似種がおおく、前翅前縁部、腹部の色彩で区別される。前種と共に食草や生態は不明である。

(Accepted February 5, 1995)

Published by the Lepidopterological Society of Japan,
c/o Ogata Building, 2-17, Imabashi 3-chome, Chuo-ku, Osaka, 541 Japan